NOTES ON THE AUSTRALIAN GENUS CESTRINUS Er. (FAM. TENEBRIONIDÆ) AND SOME ALLIED GENERA.

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(Communicated by H. J. Carter, B.A., F.E.S.)

The genus Cestrinus was characterised by Erichson in 1842 for the reception of two species, C. obscurus and C. trivialis, both from Tasmania. Of these the latter is well known in collections. while the identity of the former seems to have been practically The description is, nevertheless, quite a good one, and evidently applies to the insect described by Hope in the same year as Asida serricollis (= Opatrum denticolle Blanch.) For this a new genus, Prionotus, was proposed by Mulsant and Rey, but this name, being already preoccupied, is invalid. Pascoe later, independently proposed the genus Achora for the same insect. Gebien, in his recent Catalogue of the Tenebrionidæ. (1910), sinks Achora Pasc. as a synonym of Prionotus Muls, and Rev. which he condemns as invalid, and proposes a new name Priothorax. The latter name is quite redundant, and Achora Pasc. should be retained as the name of the genus. Cestrinus tuberculatus Carter, if I am right in my determination of two insects from Champion Bay, is also an Achora. C. trivialis Er. thus remains the type species of Cestrinus.

Isopteron Hope (type, opatroides Hope) has been correctly recognised as synonymous with Cestrinus Er., but though Hope's name antedates that of Erichson by two years, Champion has already put forward certain objections to its use*, and these have been maintained by later workers.

By the courtesy of Professor Poulton I have been enabled to examine the types of *Isopteron opatroides* Hope and *Opatrum* piceitarsis Hope. The former is slightly the broader insect, with a more transverse thorax and redder antennæ; there are also

^{*}Trans. Ent. Soc., 1894, p.355.

certain differences in sculpture, e.g., the thorax is closely set with large pits, each of which has a small setigerous tubercle near its anterior edge, leaving as it were a raised network between them. In *I. opatroides* this raised network is broader, more even in elevation, and its surface is minutely areolated; in *O. piceitarsis* it is narrower, i.e., the pits are placed closer together, rather uneven, or lumpy, in elevation, and the surface nitid, scarcely visibly areolated. The elytral interstices of *I. opatroides* are also a little more sharply granulate. These differences I do not believe to be of specific value, as, though sufficiently well defined in the two types, they occur in varying degree in specimens from widely different localities. Both of them I believe to be merely forms of *C. trivialis* Er., a common and variable species ranging from Queensland to South Australia. The type of *I. opatroides* is marked West Australia.

C. angustior Blackbn. is very similar to C. opatroides, but has the thorax narrower, with straighter sides. The raised network of the thorax is broad and even, the pits even wider apart than in opatroides, but the spaces between them are not or scarcely visibly areolated. This also I believe to be merely a form of C. trivialis.

"Apatelus" squamosus Macl. has been stated by Carter to be the same species.

C. championi Blackb. and C. eremicola Blackb. present certain points of difference analogous to those between the types of I. opatroides Hope and O. piceitarsis Hope. Unfortunately there are only a few other specimens in the collection, two from Western Australia and one labelled C. trivialis Er. from Tasmania, all of which more closely approximate to C. eremicola than to C. championi. I am inclined to think that these species also are not really distinct, and they may even prove to be merely huge specimens of C. trivialis. C. zietzi Blackb. is evidently closely allied; the type should be in the S. Australian Museum.

C. aversus Pasc. and C. posticus Blackb. (the latter a purely individual malformation) are both abraded specimens of C punctatissimus Pasc. In spite of page priority in favour of aversus the name punctatissimus should be retained for the species.

Whether C. minor Blackb., the type of which remains unique in the British Museum Collection, is really distinct from C. punctatissimus is, I think, very doubtful.

C. brevis Champ., C. aspersus Blackb. and C. puellus Geb. form another little group of very closely allied forms, much shorter and stouter than those previously considered, with the prosternal process somewhat prominent behind, widened and emarginate or bilobed at the apex. The type of C. brevis has the punctures of the elytral striæ plainly separated, while that of C. aspersus has them practically contiguous. C. puellus, if I am right in my identification, has the punctures of the striæ almost as in C. brevis, with the intervals more distinctly granulate. C. aspersus is described from S. Australia, but I have a specimen agreeing well with the type from the Swan River. Again I doubt whether these forms can be maintained as good species.

C. costatus Geb. Specimens from Fremantle and King George's Sound that I identify with this species cannot well be confused with any of the above. They resemble C. brevis in shape but are readily distinguished by the fine elytral costa with double rows of punctures between them. There are eight of these costa, as stated by Gebien, as well as a partial 9th, in addition to the epipleural margin; Carter in his comparison of C. tuberculatus with this species gives the number as six.

Adelodemus Haag (type, asperulus Haag, = Cestrinus squalidus Macl.) is placed in Gebien's Catalogue as a synonym of Cestrinus. It presents many points of difference, notably the deeply emarginate elypeus, and the wide explanate margins of the thorax, amply sufficient to warrant its retention as a distinct genus.

A. excisicollis Carter is unknown to me, but appears to be correctly placed. It is probably by a slip that it is compared with A. squamosus Macl., A. squalidus being intended.

Apostethus Pasc. (type, terrenus Pasc.) is allied to Adelodemus from which it differs in having the front of the head short and rounded anteriorly, the thorax convex, uneven, widely-rounded at the sides, without explanate margins; the elytra are more convex, but with similar broad epipleura, the interstices even, each with a single median row of rather widely spaced granules; legs much as in Adelodemus; the prosternal process is of the same character, but much exaggerated in degree, projecting backwards as two large horizontal lobes.

Mitua Hope (type, bidwelli Hope) placed both in Gemminger and Harold's and in Gebien's Catalogues as a synonym of

Cestrinus Er., is a totally different insect and must be removed from the Australian list. It is in fact the New Zealand species Pseudopatrum tuberculicostatum White. Mitua Hope has precedence over Pseudopatrum (Sharp) but bidwelli must sink to White's name. That this synonymy was known to Miedel about 40 years ago is proved by specimens in Bates's collection bearing labels "Mitua tuberculicostatum White (Bidwelli Hope)" in his handwriting, but the fact has never been published.

Apatelus hopei Muls. is unknown to me except by description. It is probably a Cestrinus; it is described as having the alternate intervals of the elytra a little raised.